KERALA GAZETTE

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COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

NOTIFICATIONS

(1)

No. Conf. II/2941/03/09 (1). *26th March 2010.*

In exercise of the powers conferred by section 24(ii) read with section 42(1) of the CUSAT Act 1986, the Academic Council at its meeting held on 26-8-2009 approved the following Regulations/Schemes of Examinations for the courses listed below.

1. MBA (Travel and Tourism) — With effect from 2009 admission onwards

2. MBA Programmes in Recognised Institutions — With effect from the date of Academic Council decision. i. e. 26-8-2009.

The Syndicate at its meeting held on 23-1-2010 vide item No. 552.34 considered the matter along with the recommendations of the standing committee of the Syndicate on Academic Matters and approved the above decision taken by the Academic Council and made the Regulations/Schemes of Examinations effective from the dates listed against each.

APPENDIX—I

REGULATIONS FOR (MBA TRAVEL AND TOURISM)

1. Eligibility for admission to the MBA (TT) degree programme shall be a Bachelor's Degree in any subject awarded by any of the Universities in India or abroad accepted by Cochin University of Science and Technology as equivalent thereto, with minimum 50% aggregate marks. The Scheduled Caste/Tribe candidates are however, eligible if they obtain a minimum pass marks at the Bachelor's degree level.

2. Candidates who have appeared in the final year examination but awaiting the results are permitted to seek provisional admission to the course. If such candidates provisionally admitted based on the admission procedure, however are required to provide evidence on the minimum academic qualifications prescribed on or before their enrolment to the I Semester MBA (TT) Examination of Cochin University of Science and Technology to be held for the purpose of admission on or before the stipulated date shall be removed for

the rolls.

3. Readmission to the MBA (TT) course shall be permitted only if the student has completed the first 2 Semesters and request for such admission shall be addressed to Registrar within a period of three years after completion of his/her study in relevant semesters in the School of Management Studies.

4. Admission shall be based on the aggregate scores obtained by the candidate in (I) admission Test with 70% weightage (2) Group Discussion with 15% weightage and (3) Interview with 15% weightage. The admission test(s) called by the common admission test(s) will be administered by Cochin University of Science and Technology or any other agency empowered by the Cochin University of Science and Technology. Group Discussion and Interview shall be conducted by School of Management Studies of the Cochin University of Science and Technology.

5. Matters relating to admission procedure, payment of fees etc. shall be prescribed by the rules framed for the purpose by the concerned authorities of the University.

6. There shall be an Admission Committee constituted by the University for deciding details relating to admission procedure within the regulations and rules and the decision by the Admission Committee on such matters shall be final.

7. Reservation rules applicable to professional course in Kerala as laid down by the Government of Kerala from time to time are applicable to the admission procedure in selecting candidates for 30 seats.

8. Eligibility for seeking admission and selection of candidates for admission are as per regulations and the rules framed for the purpose.

2. Course of Study

The full time course for MBA (TT) degree shall be in accordance with the scheme of examinations and syllabus prescribed.

The minimum attendance required by the candidate will be 75% of total number of working days.

At the end of the first semester the candidates are required to under go one month in house training in industry and at the end of the third semester the candidates are required to undergo training in industry (Project Work) for a period of not less than two months.

3. Eligibility for the Degree

As per other MBA programme of the University.

4. Examinations

There will be university examination at the end of every semester in the subjects as prescribed under the scheme of examinations. Every candidate shall take the examination at the end of each semester.

Under the semester system there will be no supplementary examinations.

All sessional works shall be valued and marks awarded on the basis of day to day work, periodical tests and other examination. In each subject 50% of the marks shall be set apart for internal assessment.

Irrespective of passing an examination at the end of the semester candidate may be allowed to attend the next semester. Nevertheless the total number of chances to appear for any subject shall be limited to three. The marks warded for internal assessment in a subject shall be carried over, if the candidate has to repeat the examination in that subject.

5. Pass Minimum

As per other MBA courses in the University.

6. Classification

As per University Regulations.

7. Revision of the Regulation and Curriculum

The university may from time to time revise, amend or change the regulations, scheme of examinations and syllabus. In the case of students already undergoing the course, the change will take effect from the beginning of academic year after the changes are introduced and shall cover the part of the course that remains to be completed.

SCHEME OF MBA TRAVEL AND TOURISM EXAMINATION

Course Code	Course Title	University Examination		Internal Assessment	Credits
		Hours	Marks	Marks	
(1)	(2)	(3)	(4)	(5)	(6)
Semester I					
SMT 2101	Tourism Principles and Practices	3	50	50	3 (c)
SMT 2102	Economics for Tourism	3	50	50	3 (c)
SMT 2103	Accounting and Finance	3	50	50	3 (c)
SMT 2104	Quantitative Techniques & Operations Management	3	50	50	3 (c)
SMT 2105	Principles of Management	3	50	50	3 (c)
SMT 2106	Human Resources Management	3	50	50	3 (c)
SMT 2107	I.T for Managers	3	50	50	3 (c)
	Personality Development				N C

(1)	(2)	(3)	(4)	(5)	(6)
	Semester II				
SMT 2201	Research Methodology	3	50	50	3 (C)
SMT 2202	Global Tourism Geography	3	50	50	3 (C)
SMT 2203	Airline Management	3	50	50	3 (C)
SMT 2204	Organisational Behaviour	3	50	50	3 (C)
SMT 2205	Business and Tourism Law	3	50	50	3 (C)
SMT 2206	Business and Tourism Environment	3	50	50	3 (C)
SMT 2207	Marketing Management for Tourism	3	50	50	3 (C)
SMT 2208	Logistics and Supply Chain Management	3	50	50	3 (C)
	Semester III				
SMT 2301	Entrepreneurial Development	3	50	50	3 (C)
SMT 2302	Hospitality and Resort Management	3	50	50	3 (C
SMT 2303	Safety, Security & Crisis Management in Travel and Tourism Industry	3	50	50	3 (C) .
SMT 2304	Management of Travel Agency and Tour Operations	3	50	50	3 (C)
SMT 2305	Tourism Marketing	3	50	50	3 (C)
SMT 2306	Management Information Systems	3	50	50	3 (C)
SMT	Elective I	3	50	50	3 (E)
SMT	Elective II	3	50	50	3 (E)
	Semester IV				
SMT 2401	Business Policy and Strategic Management	3	50	50	3 (C)
SMT	Elective III	3	50	50	3 (E)
SMT	Elective IV	3	50	50	3 (E)
SMT	Elective V	3	50	50	3 (E)
	Project Report		50	50	3 (C)
	Viva Voce		100		3 (C)

Total Marks $29 \times 100 = 2900$

Total Core Credit $24 \times 3 = 72$

Total Elective Credit $5 \times 3 = 15$

Total Credits $(24 \times 3) + (5 \times 3) = 87$.

LIST OF ELECTIVES

Sl. No.	Code No.	Name of the Paper
1	SMT-E1	Quality Management
2	SMT-E2	Tour Package Management
3	SMT-E3	Customer Relationship Management
4	SMT-E4	Projects Planning, Analysis and Management
5	SMT-E5	Destination Management
6	SMT-E6	Database Management System
7	SMT-E7	Enterprise Resource Planning
8	SMT-E8	Marketing Research
9	SMT-E9	Marketing of Services
10	SMT-E10	Advertising Management
11	SMT-E11	Industrial Finance
12	SMT-E12	Consumer Behaviour
13	SMT-E13	Cargo Management

APPENDIX—II

AMENDMENTS TO THE REGULATIONS FOR MBA PROGRAMMES (RECOGNISED INSTITUTIONS)

Since the University has adopted "Credit and Semester System" for the PG Programmes conducted by its PG Departments where students can choose electives from the Courses/Subjects offered in Various Departments, MBA Programmes conducted by School of Management Studies, CUSAT and MBA Programmes conducted by the Recognised Institutions shall be under two different streams.

MBA Programmes conducted by School of Management Studies, CUSAT shall be known as MBA Credit & Semester System (MBA CSS) and MBA Programmes conducted by the Recognised Institutions shall be known as MBA Semester System (MBA SS).

Recognised Management Institutes or Colleges which conduct the MBA Programme of the Cochin University of Science and Technology shall adopt the following regulation.

A. Eligibility for Admission

Any student who has passed any degree with not less than 50% marks in aggregate of a University or Institution recognized by UGC or AICTE under 10+2+3 pattern or 10+2+4 pattern under regular stream, is eligible for admission. However, SC/ST, OBC and other eligible communities shall be given relaxation in the percentage of marks as per University rules.

1. Recognized Management Institutes shall adopt the Management Aptitude Test (MAT) conducted by the All India Management Association, New Delhi or any test approved by the University for this purpose as Entrance Test for admission to the MBA Programme. Out of the total seats 50% shall be merit seats (Govt. Quota) and the remaining 50% shall be management quota. Based on the MAT score, the candidates shall be short-listed for Group Discussion and Personal Interview. At least thrice the number of seats or the actual number of applicants whichever is less, shall be the number of candidates invited for Group Discussion and Personal Interview.

2. G.D. and Interview shall be conducted for the merit quota seats in the private recognized institutions under the supervision of the University. Admission of candidates for the merit quota seats shall be made on the basis of merit keeping all communal reservations applicable as per the government rules.

3. The rank list for admission shall be prepared on the basis of the following weightage.

    Written Test — 70%

    Group Discussion — 15%

    Personal Interview — 15%

4. Institution shall submit a report to the University every year about the whole admission process.

5. The maximum fees that can be charged for the merit seats shall be fixed by the University/Government from time to time.

6. This regulation will be applicable from the 2010 admission onwards.

B. Examination Regulation :

(i) All courses shall have internal assessment and external examination. For each course 40% marks are to be awarded on the basis of internal assessment and 60% marks for External Examination conducted by the University.

(ii) A University Teacher/a teacher from other recognised Institution shall be appointed as Observer in all recognised Institutes to monitor the External Examination.

(iii) Internal assessment shall be done with the following components

Periodic tests (marks of best 2 out of a minimum of 3 tests)—50%

Seminar presentation—20%

Class participation and attendance—10%

Case analysis/other assignments—20%

(iv) However, the faculty has freedom to modify the above components as per the need of the course.

(v) A student should have obtained a minimum of 50% marks in internal assessment in each course to appear for end semester examination in that course.

(vi) In case a student fails to get 50% in any course, he or she shall take retest(s) or submit assignments to the faculty concerned to get the required minimum in that course.

(vii) If the student fails in getting 50% marks in internal assessment in spite of taking retests or resubmission etc., he or she shall not be allowed to write the end semester examination of the University in that course.

(viii) Such students shall repeat the course along with the successive batch of MBA students for getting pass marks in internal assessment and then appear for University examination for such course.

Transparency about Internal Assessment

7. Each faculty shall maintain record of performance and attendance of each student of his or her subject/ course. The record shall contain the question paper, answer scripts of tests, assignments, quiz etc. used for internal evaluation and shall be maintained by the teacher concerned till the declaration of the final results of the university exam of the semester concerned. Each faculty shall submit the internal assessment marks of the students to the Head of the Department or Institution as per rules.

8. Such internal assessment mark lists shall show all the components separately and the total of internal assessment marks awarded to each student.

9. The Department shall publish the list of internal assessment marks of all the students in each semester before sending it to the Controller of Examinations.

10. The Internal marks of the student shall be communicated to the Controller of examinations along with Attendance and Progress Certificate (APC) as per the examination regulation.

11. The faculty shall make available details of the internal assessment marks, with explanations wherever required, to the Head of the Department or Institution in case of grievance regarding internal assessment.

Procedure for grievance handling about internal assessment

12. If the students have any grievance against any member of faculty such grievance shall be dealt with at three levels for a solution: First the student concerned may present the grievance and discuss it with the concerned faculty.

13. If the grievance is not solved at the faculty level, the student shall submit a written complaint with all the relevant details to the Head of the Department, Centre or Institute. A copy of such complaint shall be forwarded to the Controller of Examinations.

14. The complaint shall be dealt with by a Committee of teachers with the Head of the Institute, one senior teacher and the teacher whose assessment is a matter of dissatisfaction for the student or students.

15. If it is not solved at the Department or College level, the Head of the Department or College or Institute shall forward the written complaint of the student along with the reply of the concerned faculty member to the Controller of Examinations CUSAT.

16. All students shall be informed of the procedure of grievances handling in respect of Internal Assessment.

External Examination

17. The University shall conduct end-semester examinations, carrying 60% marks for each subject in all the semesters. The Director or a Senior Faculty of School of Management Studies shall be the Chairman of the Board of Examiners.

18. All other rules and regulations of the MBA programme conducted by the School of Management Studies, CUSAT shall be applicable to the MBA programmes conducted the Recognised Institutions also.

(2)

No. Conf. II/2941/03/09 (2).   *26th March 2010.*

In exercise of the powers conferred by section 24(ii) read with 42(1) of the CUSAT Act 1986, the Academic Council held on 26-8-2009 approved the Regulations and Schemes of Examinations for the following courses as listed below:

1. M.Sc. Degree in Information Technology

2. M.Phil. in Ecological Informatics

Offered by IIITMK with effect from 2009 admissions onwards

3. M.Tech. in Computer Science with specialisation in Embedded System, offered by Department of Computer Science

With effect from 26-8-2009, the date of the Academic Council decision.

The syndicate at its meeting held on 23-1-2010 vide item No. 552.34 approved the above decision taken by the Academic Council and made them effective from the dates listed against each.

REGULATIONS FOR MASTER OF SCIENCE IN INFORMATION TECHNOLOGY

1. Course Description

Master of Science in Information Technology will be a flagship programme offered by the Indian Institute of Information Technology and Management-Kerala, aims at high standards in basic and applied sciences, technology, management and information system. The programme focuses on a broad grasp of foundations in Computer Science and IT, deep understanding of the area of specialization, an innovative ability to solve new problems and a capacity to learn continually and interact with trans-disciplinary groups. The technology enhanced e-learning methodologies with web based course management system and on-line learning system enriches the programme, allows to broaden their horizons.

The duration of the programme is 2 years and the courses are carefully designed to attain both technical and managerial aspects that enable them to grow into competent. seasoned professionals. There are 13 core courses spread across 3 semesters accumulating 48 credits. The 4th semester is for internship of credit 18. Students are required to undergo an industry or research oriented project in any leading IT or R and D organizations. Students are also required to take up two electives of 6 credits and the total requirement of credit is 72.

2. Salient Features

1. Students are selected through an entrance examination conducted by CUSAT.

2. Students are provided with high-end network and software services, e-learning technologies and multimedia facilities

3. Courses at basic and advanced levels with cutting edge technologies

4. Highly qualified Faculty actively engaged in teaching and research. Also Visiting Faculty from leading institutes and industries.

5. Support of Digital Library with good collection of e-journals, e-books. online reports and other digital materials.

6. Multimedia Digital Library with course videos available at any time.

7. Teamwork and students community and collaboration group enable healthy exchange of information.

8. Students can participate in ongoing research and technology development, live projects and networks.

9. The technology enhanced learning methodology and e-learning framework allows students to learn at anytime in their own place.

10. Situated in Technopark, India's largest IT park that hosts over 150 IT companies allows students to interact with techies and get in touch with current technologies and developments.

3. Eligibility

Entry-level requirement is a Bachelor's degree in any branch of Engineering/Technology or Master's Degree in Computer Science and Applications with minimum score of 60 percentage marks or CGPA of above 6.5 in 10 points, in the qualifying examination.

4. Admissions

Students shall be selected through an entrance examination conducted by Institute under the supervision of CUSAT for both engineering and general aptitude. Reservation of seats for SC/ST, OBC etc. is applicable as per government rules. The final selection of the candidates is done through an interview from the short listed candidates of written test. The total intake of the student is 60.

5. Assessment, Evaluation and Grading System

There will be 40% for internal examination and 60% external examination marks. There will be a continuous assessment for classroom performance, lab exercises, seminars and discussions. The evaluation scheme for each semester has internal assessement, examinations and lab examinations. All practical examinations will be internally evaluated. The evaluation of a student's performance at the end of the semester results in a grade and a grade card will be issued on completion of each semester. The grade pattern is given below:

Marks	Range Grade	Weightage
90% and above	S-Outstanding	10
80-89	A-Excellent	9
70-79	B-Very Good	8
60-69	C-Good	7
50-59	D-Satisfactory	6
Below 50%	F-Failed	0

There will be a grade W and I, where W is withheld and I is incomplete. The performance Index (PI) of a student over a set of credited courses c1, ...cn is a measure of the student's average performance over that set of courses. PI is calculated as the average grade point over the set of credited courses weighted by the number of credits for each course.

$$PI = \sum_{i=1}^{n} credits(c_i)* gradepoint\ (c_i)/ \sum_{i=1}^{n} credits(c_i)$$

When the set of courses refer credited refer to those completed during a semester by the student, then the corresponding Performance Index is called the Semester Performance Index for that student for that semester and is abbreviated SPI. When the set of courses refer to all those course completed by the student at IIITM-K at any given time then the Performance Index is called the Cumulative Performance Index at that time and is abbreviated CPI.

6. Total Credit Requirements

Each course has assigned a fixed number of credits. These credits usually correspond to the number of lectures and half the number of lab contact hours per week in a regular semester term. In addition, there are 18 credits for research and internship projects. The student should have accumulated a total of at least 72 credits. The minimum grade for attaining certificate is 6.5.

Courses

Core Courses

The student should have earned 48 credits from the following 13 core courses:

ITMS2101	Discrete Mathematics
ITMS2102	Computer Architecture and Organization
ITMS2103	Principles of Programming
ITMS2104	Technical Communication
ITMS2105	Object-Oriented Programming in JAVA
ITMS2201	Data Structures and Algorithms
ITMS2202	Operating Systems
ITMS2203	Computer Networks
ITMS2204	Database Management System
ITMS2202	Object Oriented Analysis and Design
ITMS2303	Web Technology

Elective Courses

The student is required to earn at least six credits in 2 Elective courses from the following list of courses:

ITMS2E01	Soft Computing
ITMS2E02	Geographical Information Systems
ITMS2E03	Computational Biology
ITMS2E04	Embedded Systems
ITMS2E05	Artificial Intelligence and Software Agents
ITMS2E06	Digital Signal Processing
ITMS2E07	Scientific Computing
ITMS2E08	Software project Management
ITMS2E09	Principles of Management
ITMS2E010	Software Engineering

Research/Independent Study Credits

The student may substitute four elective credits with research/independent study credits under any faculty of the Institute. The availability of research credits facilitates the student to get involved in the research activities of the Institute. The availability of independent study credits facilitates the student to enroll in any latest subject of his/her interest. Upon enrollment, the student's work will be guided by the supervising faculty. There will be audited courses and no credit will be assigned to such courses.

Internship/Project

Students may carry out their internship project in an industry or any reputed academic/research institutes. The internship project aims at giving the student an opportunity to participate and work in a substantive project activity. Typically the industry internship helps the student to learn about work culture, business processes, technologies, marketing strategies, etc. Under the institute internship, the student takes up a research topic or participates in an Institute project under the guidance of a faculty or project co-ordinator.

The internship project is worth 18 credits.

The contribution of different credit requirements for the degree is summarized below:

Requirement	Credit
Core Courses	42
Elective Courses	12
Internship/Project	18
Total Credits	72

SEMESTER-WISE BREAKUP OF COURSES FOR 2 YEARS

Sl. No.	C. Code	Course Title	Credits	Lect	Lab	IE	UE	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Semester I						
1	ITMS2101	Discrete Maths	3	3	0	40	60	100
2	ITMS21021	Computer Archi. and Organ	4	3	3	40	60	100
3	ITMS2103	Principles of Program	4	3	3	40	60	100
4	ITMS2104	Technical Comm.	3	3	0	40	60	100
5	ITMS2105	Object Orient. Pro. in JAVA	4	3	3	40	60	100
		Total for Semester I	18	15	9	200	300	500
		Semester II						
1	ITMS2201	Data Struct. and Algor.	4	3	3	40	60	100
2	ITMS22021	Operating Systems	4	3	3	40	60	100
3	ITMS2203	Computer Networks	4	3	3	40	60	100
4	ITMS2204	Database Mang. System	4	3	3	40	60	100
5	ITMS2EX1	Elective-I	3	3	0	40	60	100
		Total for Semester II	19	15	12	200	300	500

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Semester III						
1	ITMS2301	Object Orient. Analysis	4	3	3	40	60	100
2	ITMS2302	Web Technology	4	3	3	40	60	100
3	ITMSEX2	Elective-II	3	3	0	40	60	100
4	ITMSEX3	Elective-III	3	3	0	40	60	100
5	ITMSEX4	Elective-IV	3	3	0	40	60	100
*	-	Total for Semester III	17	15	6	200	300	500

			Semester IV			

			Marks		
No.	*C. Code*	*Course Title*	*IE*	*UE*	*Total*
1	ITMS2401	Research/Internship	200	300	500

IE-Internal Examination

UE-University Examination

Graduation

For graduation, the student must satisfy all the requirements as per University rules.

REGULATIONS MASTER OF PHILOSOPHY IN ECOLOGICAL INFORMATICS (M. Phil—EI)

1. Course Description

Ecological Informatics (EI) is a trans-disciplinary subject that integrates ecology, computational sciences, informatics and social sciences, in order to improve our understanding of ecological processes and expand socio-ecological theory to integrate the earth's natural systems, human values, human health and well-being. A suite of disciplines; ecology, informatics, computational sciences, ecological economics, anthropology, sociology and demography constitute EI.

2. Salient Features

The proposed programme in Ecological informatics has a strong emphasis on trans-disciplinarity. It will perhaps be the first academic exercise in India to impart computational and IT/informatics skills to students with background in natural sciences.

The programme aims to prepare students for a future in ecological sciences research, with a special emphasis on using Information Technology in the context. The inclusion of social dimension will complement development of critical thinking ability of the students. Hands on programming and first hand research exposure, particularly in another institution is a constructive innovation adopted.

Upon successful completion the students will develop a holistic understanding of the relevant concepts in ecological sciences, be competent to identify appropriate computational method, use computational tools to analyze and understand key theoretical, methodological and practical issues that underpin the flow of information within the biosphere, appreciate the contribution of a range of scientific and social disciplines in understanding and constructing environmental information pathways, demonstrate competence in the substantive areas covered by the course and develop skills that they can use in careers within, and beyond the field of environmental informatics. The course is an ideal stepping-stone towards a doctoral research fellowship or a research career.

3. Eligibility

Qualifying examination/degree for the admission for the M. Phil- El degree course is M.Sc. degree with First Class in the Natural/Physical Sciences with CGPA 6.5 or above in 10 Points scale or equivalent on the above mentioned subjects.

4. Admissions

Admission to the Course is based on the admission test conducted by Institute under the supervision of CUSAT.

5. Assessments and Grading System

Following Grade System on Ten–Point Scale will be adopted.

Range of Marks %	Grades	Weightage (G)
90 and above	S-Outstanding	10
80-90	A-Excellent	9
70-80	B-Very Good	8
60-70	C-Good	7
50-60	D-Satisfactory	6
Below 50	F-Failed	0

X-Y means that X is included and Y is excluded.

Overall Grade Point Average (GPA) calculated as follows will indicate performance after each semester:

$$GPA=(C_1G_1+C_2G_2+C_3G_3+.......................CnGn)/(C_1+C_2+...Cn)$$

Where C refers to the credit value of the course and G is the Grade weightage. At the end of the 2nd semester CGPA will be calculated based on the above formula.

6. Classification for the degree will be given as follows:

Classification	CGPA
First Class with Distinction	8 and above
First Class	6.5 and above
Second Class	6 and above
Fail	below 6

7. Number of seats

It is proposed to limit the number of seats to 10.

8. Mode of Evaluation

8.1 A student would be considered to have progressed satisfactorily at the end of a semester if he/she has a minimum of 75% attendance.

8.2 The evaluation will be carried out based on 40% marks by internal evaluation.

(IE) and 60% by University Examination (UE). IE will consist of minimum 2 tests, assignments, seminar etc.

8.3 The pass minimum is 50% marks. If the candidate fails to secure 50% he/she is failed in the subject and has to repeat the subject in the next possible chance.

8.4 A pass in the course will entitle the student to acquire the credit value allotted for that particular course. Details of the credit values are given in the course structure. Student will be promoted to the second semester only if he/she have completed all the papers in the first semester.

9. Declaration of Result

The University shall issue mark list at the end of each semester with GPA. Final mark list will contain CGPA.

10. Grievance Cell

The Department Council will act as grievance cell where complaints from students on the conduct of class tests, semester examination and valuation methodology can be examined. The student shall make such complaints within a week after the examination to the HOD/Director in writing for scrutiny by the grievance cell.

11. Evaluation of the Teachers by the students

For effectiveness and improvement in the delivery of the course, there should be student evaluation of teachers. The feedbacks have to be confidential and may be discussed with the respective teachers by the HOD/Director, so that he/she can modify the teaching and learning methodology followed by him/her.

12. E-Learning Format in Teaching and Learning

IIITM-K campus has I GB connectivity and has e-learning platform called Black Board. Free software Moodle can also be used. In order to encourage online teaching and learning, atleast one module of a paper should be delivered through e-learning format.

13. Course Coordination Committee

Courses in each semester have to be coordinated by a Coordination Committee consisting of the Director/ Head of Departments / School, Course coordinator and all the teachers handling the courses. The committee should meet atleast once in a month to monitor the courses. A student representative of the class may be invited as and when necessary to provide feedback from the side of the students.

M. Phil.-EI SCHEME OF EXAMINATIONS

Course	Subject	L hr/wk	Lab hr/wk	Credit	Marks IE	Marks UE	Total Marks
EIMPH 3101	Ecology	5	..	5	40	60	100
EIMPH 3102	Informatics	5	..	5	40	60	100
EIMPH 3103	Social Ecology & Research Methodology	4	..	4	40	60	100
EIMPH 3104	Ecology Lab	..	4	2	50	..	50
EIMPH 3105	Informatics Lab	..	4	2	50	..	50
EIMPH 3106	Social Ecology & Research Methodology Lab	..	2	1	50	..	50
EIMPH 3107	Seminar	1	..	1	50	..	50
Total for Semester I		15	10	20	320	180	500
EIMPH 3201	Projects	..	10	10	200	200	400
Total for Semester II		..	10	10	200	200	400
Total				**30**	**550**	**350**	**900**

M. Tech. in 'Computer Science with specialization in Embedded Systems'

(This programme is intiated by the Department of Computer Science to commemorate its Silver Jubilee year 2009-10)

1. REGULATIONS

1.1 Program Description:

Embedded Systems are hardware/software combinations whose purpose is to control a device, a process or a larger system. Specific examples of Embedded Systems include: those controlling the ABS of a car or the operation of its engine; the automatic pilot of an aircraft; the chip set and software within a set-top box for digital TV; and control systems embedded in a nuclear reactor. The importance of embedded systems is growing continuously. Educated/ trained hands in Embedded Systems design are likely to be in demand. The M.Tech. in 'Computer Science with specialization in Embedded System', is designed to gain specialized knowledge related to the design and development of embedded systems.

The Program is targeted to working professionals intersted in gaining expertise in Embedded systems that these days become ever more intelligent and distributed, as also more complex and interdependent. The program is to follow a choice based credit system, with coursework confined in three semesters and project work in two semesters. For successful completion of the program, a student has to acquire a minimum of 72 credits (36 for coursework & 36 for projectwork) within a minimum period of five semesters and a maximum of eight semesters. There shall be three courses in each semester, administered in evening sessions of the requisite duration. During the project work, the student has to prepare a Technical Paper and present in any Conference or communicate to a referred Journal. The project work can be carried out in the parent organisation/institution subject to approval by the Department Council.

1. 2 Eligibility

1. First Class B.Tech. Degree in Computer Science & Engineering / Electronics Engineering / Information Technology/ Electrical Engineering or equivalent branches / MCA; with 60% marks or equivalent CGPA.

2. A minimum of one year experience in an Industry of repute or a University/Institution recognized by appropriate statutory bodies.

1. 3 Admission

Ranking for admission will be based on the Index mark composed of a weightage of 50% for qualifying Degree, 40% for Departmental Admission Test (DAT) and 10% for experience. Reservation to eligible Communities/ Categories will be as per State Government Rules.

1. 4 Assessment & Grading

Assessment & Grading will be in accordance with that of the other M.Tech. Programmes offered by the Department of Computer Science. There will be a continuous assessment for class room performance based on assignments as well as laboratory exercises. Performance at the end of the Semester will be assessed and graded on a 10 point scale, to indicate his/her CGPA, subject to fulfilling the following:

1. A student would be considered to have progressed satisfactorily at the end of a semester if he/she has a minimum of 75% attendance.

2. The pass minimum in a subject is 50%. If a candidate fails to secure 50% marks he/she is failed in the subject and has to reappear in the next possible chance.

3. A pass in the course will entitle the student to acquire the credit value allotted for that particular course (for credit values please refer to the course structure).

4. A student shall complete his/her M.Tech. programme within a maximum of 8 (eight) consecutive semesters by acquiring the total credit requirements (72) as specified for the award of the degree.

COURSE STRUCTURE

M.Tech Computer Science with Specialization in Embedded Systems

Sl. No.	Course Code	Course Title	Core/ Elective	Credits	Lec	Lab	Marks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Semester I					
1	CSE 3101	Embedded Computer Architecture	C	4	4	0	100
2	CSE 3102	Real-Time Operating Systems	C	4	3	2	100
3	CSE 3103	Software Engineering Principles	C	4	4	0	100
		Total for Semester I		12	11	2	300

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Semester II					
1	CSE 3201	Model Driven Real-Time Software	C	4	4	0	100
2	CSE 3202	Programming Embedded Systems	C	4	3	2	100
3		Elective I	E	4	4	0	100
		Total for Semester II		12	11	2	300

Electives

CSE 3203: Networked Embedded Systems

CSE 3204: Software Reliability Engineering

		Semester III					
1	CSE 3301	Real-Time Digital Signal Processing	C	4	3	2	100
2	CSE 3302	Real-Time Design Patterns	C	4	4	0	100
3		Elective II	E	4	4	0	100
		Total for Semester III		12	11	2	300

Electives

CSE 3303: Control Systems Engineering

CSE 3304: High Performance Embedded Computing

CSE 3305: Embedded Communications Software

		Semester IV					
1	CSE 3401	Project & Viva Voce	C	18	0	15	300
		Semester V					
1	CSE 3501	Project & Viva Voce	C	18	0	15	300
		Total Credit for Degree: 72					

(3)

Read:—Notification No. Conf. II/2941/1/06 (4) dated 15-7-2006.

In exercise of the powers conferred by Section 24(ii) read with 42(1) of the CUSAT Act 1986, the Academic Council held on 26-8-2009 approved the modified eligibility conditions for B.Tech. Lateral Entry Students, for getting a 1st Class as given below.

"A candidate who qualifies for the degree by passing all the subjects of the six semesters within 5 academic years (10 consecutive semester) after the commencement of his course of studies and secures not less than 60% of the aggregate of total marks of all six semesters shall be declared to have passed the B.Tech. Degree Examination in First Class".

The syndicate at its meeting held on 23-1-2010 vide item 552.34 approved the above decision taken by the Academic Council and made *this effective from 2007 Lateral Entry Admission (from 2010 pass out batch).*

The notification read above stands modified to this extent.

Cochin University P. O.,   (Sd.)
Kochi-22.   *Registrar.*